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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/708,653 | 03/17/2004 | John Larry Sanders | 30621-DIV1-CIP1 | 2652 |

23589 7590 04/20/2005

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| EXAMINER | |
|---|---|
| PEZZUTO, HELEN LEE | |
| **ART UNIT** | **PAPER NUMBER** |
| 1713 | |

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/708,653 | SANDERS ET AL. | |
| | Examiner | Art Unit | |
| | Helen L. Pezzuto | 1713 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *09 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) *12-22,35 and 36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11 and 23-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-36* are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/28/04, 2/4/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I, claims 1-11, 23-34 in the reply filed on 3/9/05 is acknowledged.

2. Claims 12-22, and 35-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 3/9/05.

The requirement is still deemed proper and is therefore made FINAL.

### *Information Disclosure Statement*

3. The information disclosure statement (IDS) submitted on 9/28/04 and 2/4/05 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### *Drawings*

4. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the data on the Y axis in Figs. 1 and 2 appear to be cut off. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in

reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Objections***

In claims 1 and 23, the parenthetical expression following "consisting of nothing" is improper and should be removed. Does the phase "consisting of nothing" have the same meaning as "a single bond". Please clarify.

Claim 9 is currently dependent on itself. Please clarify.

Claim 30 improperly recites "in accordance with Example 20". The details of said abrasion resistance testing in Example 20 should be positively express in the claim.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is a lack of antecedent basis for the recited "coating" in claim 9. please clarify.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 3-5, 8-11, 23, 25-27, 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jensen et al. (US-629).

US 3,265,629 to Jensen et al. discloses a method of coating solid particles, including fertilizer species expressed in the present claims (col. 2, lines 36-42); col. 11, Example 7). Prior art discloses particle size range which meets the requirement expressed in claims 4, 26 (col. 2, lines 5-12). Suitable coating employed include aqueous solution of polymers containing both lipophilic and hydrophilic units, with the major percentage of the recurring units being hydrophilic (i.e. derived from dicarboxylic acids such as maleic acid and crotonic acid). Other copolymerized units are also taught, in minor amounts (col. 5, lines 57-72). The instant dicarboxylic acid polymer is suggested because prior art teaches a major

amount of the hydrophilic recurring units. In a preferred embodiment, the reference teaches hydrolyzed styrene-maleic anhydride copolymer containing a miner amount of other comonomer such as itaconic acid, which encompass the instantly recited "at least two different moieties". Prior art appears to be silent regarding the proportions of polymer and fertilizer and relative amount of coating as expressed in claims 5, 10, 27, and 32. The examiner is of the position that under prior art general conditions, one skilled in the art would have envisaged the proper proportions suitable for specific applications via routine experimentation. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. The reference does not expressly exemplify dust inhibition property attributed to the coating, but does disclose slow release/extended action of the coated fertilizer. This would implicitly suggest dust generation is expected to be reduced. Thus, rendering obvious the instant claims.

9. Claims 1-11, and 23-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over von Locquenghien et al. (US-074 or US-439) in view of Bonsignore et al. (US-238).

U.S. 6,187,074 and U.S. 6,309,439 to von Locquenghien et al. disclose coated fertilizer granules which are coated with a carboxyl-carrying ethylene copolymer, and their application to plants and arable land (see US-074, col. 3, lines 63-67, col. 8, claims). Prior art copolymer comprises 70-90 wt % ethylene, and 10-30. wt% olefinically unsaturated $C_3$-$C_8$ alkanecarboxylic acid. Suitable alkanecarboxylic acid include maleic acid, fumaric acid and itaconic acid and mixtures thereof, which embrace the presently claimed dicarboxylic acid species in free acid form( see US-074, col. 2, lines 53-62). Prior art further teaches that 40-100% of the carboxyl groups are in form of their salts, including Zn, alkali metal, alkaline earth metal, or ammonium salts, which embrace the presently claimed dicarboxylic acid subunit in their salt or complexes form (see US-074, col. 2, lines 37-42). The presently claimed fertilizer species are disclosed in the references ( see US-074, col. 2, lines 31-34; working examples). Prior art teaches using 0.5-15 wt% of the copolymer in the total amount of the coated fertilizer granules (5-45 wt% in dispersed form), and further disclose and exemplify applying an aqueous solution or dispersion of the copolymer

to the fertilizer granules ( see US-074, col. 3, lines 21-23) which meet the terms recited in claims.

Prior art references are silent regarding using the polymer in granular form or co-ground the polymer and fertilizer together as claimed. The examiner is of the position that the polymer can be produced in granular form and the subsequent procedure of co-grounding said polymer with coated and/or non-coated fertilizer is conventional practice to one skilled in the art as expressly taught in analogous U.S. 5,563,238 to Bonsignore et al. Accordingly, it would have been obvious to one skilled in the art to admixed the polymer with fertilizers and subsequently co-ground the admixture with the reasonable expectation of success in controlling the release rate of the fertilizer into the agricultural site as taught in the prior art. Furthermore, primary references disclose the presently claimed dicarboxylic acid polymer with the exception of the additional ethylene comonomer. Since the instant claims do not exclude the presence of additional comonomers, the examiner is of the position that it would have been obvious to one skilled in the art to eliminate prior art ethylene comonomer as well as its function, if so desired. Prior art is further silent on the property of reducing dust

generation from the resulting coated fertilizer. The examiner is of the position that such property is expected to be inherent or an obvious result in prior art coated product because the primary function in a coating lie in its ability to adhere and coat uniformly to the substrate to be coated, hence reduced amount of dust generated from the coated fertilizer particles is expected, absent a showing of the contrary.

10. Claims 1-11, and 23-34 are rejected under 35 U.S.C. 103(a) as being obvious over Sanders et al. (US-831 or US-155).

The applied reference has a common assignee and at least one common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application

and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

U.S. 6,596,831 and U.S. 6,525,155 B2 to Sander et al. discloses anionic vinyl/dicarboxylic acid polymers and their utilities, comprising recurring polymeric subunits made up of a combination of at least two different subunit moieties derived from A, B, C moieties. US-382 essentially disclose mixing, coating, and co-grounding the instant polymer containing B and C recurring subunits with various fertilizer particle species, with the exception of the extra A moiety. Since the instant invention does not exclude the presence of additional moieties, it would have been obvious and fully within the purview of one skilled in the art to omit prior art A moiety with the consequent loss of its function.

***Double Patenting***

11. Claims 1-11, and 23-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being

unpatentable over claims 1-10 of U.S. Patent No. 6,525,155. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant fertilizer product is generic to and encompass those expressed in prior art claims.

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen L. Pezzuto whose telephone number is (571) 272-1108. The examiner can normally be reached on 8 AM to 4 PM, Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization

where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Helen L. Pezzuto
Primary Examiner
Art Unit 1713

hlp